

DOCUMENT RESUME

ED 473 731

CG 032 315

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TITLE Contextual Theory and Adolescent Drug Use Prevention.
PUB DATE 2001-11-00
NOTE 16p.; Paper presented at the Annual Meeting of the National Communication Association (87th, Atlanta, GA, November 1-4, 2001).
PUB TYPE Information Analyses (070) -- Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE EDRS Price MF01/PC01 Plus Postage.
DESCRIPTORS *Adolescent Behavior; Adolescents; Behavior Problems; *Behavior Theories; Communication Research; *Drug Use; *Prevention; Program Evaluation; Secondary Education; *Theory Practice Relationship

ABSTRACT

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CONTEXTUAL THEORY AND ADOLESCENT DRUG USE PREVENTION

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Paper presented to the Health Communication Division at the 87th annual conference of the National Communication Association, November 2001, Atlanta, GA.

The present study uses an exemplar of contextual adolescent behavior theory, Jessor & Jessor's (1977) Problem Behavior Theory (PBT), to review the current state of drug use prevention strategies. An overview of PBT theory and research are provided, and health communication programs, both academic and professional, are evaluated accordingly. It is suggested that numerous potential prevention pathways remain generally unattended, and strategies are presented for bridging gaps between theory and practice.

"The most alarming aspect of illegal drugs is the threat that they pose to our children; drug use during adolescence greatly increases the chance of acquiring life-long dependency problems that add to the enormous social and health costs of illicit drugs that already burden our society."

-- Barry R. McCaffrey, Former Director of the U.S. Office of National Drug Control Policy, From "Memo For Americans Who Reject Drug Abuse"

Adolescent drug use in the U. S. is a widespread, deep-seated problem. From the latest figures on drug use amongst our youth to the federal government's multi-billion dollar investment in eradicating this social problem (Suro, 1998, July 9, p. A9), there are countless warning signs. Whether we view this problem passionately or from a more mechanistic, cost-benefit analysis perspective as voiced above, something must be done to heal the damage drugs in society represent. Moreover, it is safe to say that the problem is not one of a fleeting nature, or, put another way, our kids are not simply "going through a phase." In recent history, we have seen drug use amongst our youth move from an all-time high in the nineteen seventies, through a period of decline through the eighties, and back again to the present, as we now witness alarming proportions unmatched in two decades (Institute for Social Research, 1999).

After a year of significant decline in 1998, following the onset of the National Youth Anti-Drug Media Campaign, rates are again on the rise, and this rebound suggests that although we might be doing well in persuading adolescents to avoid drugs, we could be doing better. In other words, it may be time to reassess the evaluation and implementation of drug prevention strategies toward a more meaningful and productive course of action. One way of doing so, we suggest, is to rethink the juncture between adolescent drug use theories and communicative prevention practice.

An oft-used phrase in the academy says that there is nothing so practical as a good theory (Lewin, 1951), and the value of a given theory is traditionally judged by the extent to which it explains reality or, in the social sciences, day-to-day life. For the economy of language, another end to which scholars often strive, the word "praxis," from the Greek naming labor as opposed to "poesis," or mental work, has been appropriated by the academy to describe the engagement of theory with "real world" practice and processes, or in more popular terms, "where the rubber hits the road."¹ Person-centered theories such as the Health Belief Model often make their way into the design of adolescent drug use prevention interventions, especially those created or guided by academics (Higginbotham, West, & Forsyth, 1988). However, there remains a question as to the extent to which "real world" popular and professional health communication practices engage larger, contextual theory. That is to say, drug use prevention interventions, for which there is a vast body of literature in place among academic journals and other scholarly outlets, often reflect person-centered theories of

¹ The term "praxis" as applied here should not be confused with the Marxist expression which signifies the revolt of the "proletariat" predicted to follow a realization of material conditions as facilitated by the "intellectuals."

adolescent drug use, but they may not utilize contextual theories. Further, as those in the latter category incorporate the individual into sociohistoric context, they may prove very useful in explaining and predicting drug use behaviors in ways that theories in the former category fall short. It is not the position of this essay to contend that such person-centered theories aren't useful--they certainly are--but at the same time the argument can rightly be made that if contextual theory can add to our understanding, and if good theory is the benchmark of practicality, then social practices can do better by incorporating theories of context. To this end, the present essay uses contextual theory to assess the recent history of youth prevention strategies.

Although it is certainly a worthwhile task, the confines of time and space do not permit an evaluation of all communicative prevention strategies on the basis of all theory in the field. The aim here has been specified to applying a single theory of adolescent behavior, Jessor and Jessor's (1977) Problem Behavior Theory (PBT), to a representative sample of practices (for an overview of theories on adolescent substance use, see e.g., Petraitis, Flay, & Miller, 1995). In doing so, we hope to help provide a model for evaluating prevention strategies not only for future theory and research, but also for professionals and academic clinicians who might do well to bring these implications to bear in their ongoing work.

The present study examines the continuing history of adolescent drug use prevention strategies in light of Problem Behavior Theory to assess strengths and weaknesses, highlight gaps between theory and practice, and forward appropriate suggestions for future directions in preventing adolescent drug use. First, a delineation of person-centered and contextual adolescent drug behavior theory and an introduction to PBT are presented. Next, a brief overview is conducted on the literature of prevention communication strategies both academic and popular, from interpersonal to mass-mediated, and practice is then positioned within PBT. Finally, a review of the disconnects between theory and practice is given, followed by suggestions for connecting theory and practice as well as for future directions in studies linking the two.

Person-centered and Contextual Theory

A further distinction between "contextual theory" and "person-centered theory" seems necessary. Taking an example of the latter category, the Health Belief Model (see, e.g., Maiman & Becker, 1974; Rosenstock, 1974), we will see that the major differences lie in categorical scope and theoretical focus, as the terminology suggests. However, the two types are not incompatible. In fact, a contextual model of drug intervention practice could benefit greatly from incorporating person-centered theories (Sale, 1999), especially considering the extent to which their predictive power has been explicated and applied in practice (see, e.g., Reynolds, West, & Aiken, 1990; Donaldson, Graham, Piccinin, & Hansen, 1995; Hill,

Howell, & Hawkins, 1999; Botvin, Botvin, & Ruchlin, 2000).

Person-centered theories of drug use can be defined as those that center around intrapersonal judgment and decision-making processes with respect to individual qualities and processes such as self-esteem, stress management, and academic and social skills as well as drug- and health-related knowledge, attitudes, and behaviors. On the other hand, contextual theories locate the individual in sociohistoric context by integrating personal variables with concepts such as normative anomie, racial and gender equality, socio-economic status, drug availability, and drug-related parent/friend norms. Moreover, person-centered theories tend to be generated with prediction of health-related behaviors in mind, while explanation of lifecourse development lies at the heart of contextual theories.

The Health Belief Model is among the most widely-recognized and implemented person-centered theories in adolescent drug use prevention (Elder, Stern, Anderson, & Hovell, et al., 1987), and moreover, it is not only applied in drug use prevention but also in areas of health communication such as disease prevention (Higginbotham, West, & Forsyth, 1988). Within its framework, the focus is on individuals' perceived susceptibility and perceived barriers to action. Regarding drug prevention interventions, the first component relates to demonstrating that adolescents are personally susceptible to drug use and its negative health-related consequences, while the second component breaks down into communicating that drug abstinence and/or alternative behaviors are both viable and will lead to positive health-related outcomes. This model stems mainly from Lewin's goal-setting in the level-of-aspiration theory and the idea that individuals' perception of reality determines behavior (Rosenstock, 1974); so that by changing these perceptions, we can direct behaviors. Therefore, it gives us a well-illustrated theoretical perspective on the *intrapersonal processes* at work in drug-related decision-making, but what it doesn't sufficiently address are variables seemingly unrelated to drug use that may influence behavior and that pertain to the social origins of health-related and other beliefs. Broader contextual theories, in contrast, are designed for this purpose while they lack the intrapersonal sophistication of person-centered theories.

One of the more extensive and engaging contextual theories of adolescent drug use in the field of social psychology, comprehensiveness and praxis being major criteria by which the body of work was selected, is Jessor and Jessor's (1977) Problem Behavior Theory (PBT). Although to this day, by the authors' own explanation, the theory continues to be transformed as it incorporates additional variables based on predictive and explanatory value, the structure of this theory and the research that informs it provide a substantial framework within which to position drug-related prevention strategies. Moreover, the capacity of this theory to change and grow is among its major strengths, and revisiting the body of research in an evaluation of practice can provide a fruitful area of investigation.

Problem Behavior Theory

Problem Behavior Theory is an exemplar of the newly-emerging interdisciplinary academic paradigm *developmental behavioral science* that seeks to extend "beyond the traditional boundaries of psychology to encompass the concerns that neighboring disciplines have with the social environment of human action" (Jessor, 1993, p. 117, and the theory is guided by ontological and epistemological premises reflecting the notion that "all behavior is the result of person-environment interaction" (Jessor, Donovan, & Costa, 1991, p. 20). As its title implies, the theory's aims surround explanation and prediction of all problem behavior amongst adolescents, not simply illicit drug use. A vast number of characteristics of adolescence are examined in the research, including the spectra of protective and risk factors, distal and proximal influences, and conventional and unconventional behaviors, all of which have been shown to explain variance in adolescent drug use (see, e.g., Jessor, Turbin, & Costa, 1998; Jessor, Van Den Bos, Vanderryn, Costa, & Turbin, 1995). Moreover, the theory and research have yielded a picture of behavior and development over the adolescent stage of the lifecourse showing that problem behaviors often tend to occur in tandem, representing what has been described as a "syndrome" of problem behavior.

The structure of PBT has three major fields, wherein a first is a set of five risk and protective factor domains, a second encompasses the myriad of adolescent risk behaviors/lifestyles including problem behavior, health-related behavior, and school behavior, and a third field reflects numerous possible health/life-compromising outcomes such as those related to mental and physical well-being, social roles, personal development, and adulthood preparation (see Jessor, 1993 for a schematic breakdown). Further, the five risk/protective factor domains are interrelated, meaning that each influences and is influenced by the others, and the two fields of behaviors and outcomes are conceptualized in the same manner. This is to say that risk behaviors may modify risk factors at the same time that the factors are influencing the behaviors and that health/life-compromising outcomes may be inserted for either of the other two in that relationship. For example, in a given adolescent, a risk behavior such as illicit drug use may have been largely brought about through a personality risk factor such as risk-taking propensity, but this adolescent may also enhance her or his risk-taking propensity by successfully negotiating the use of LSD. Essentially, then, in this case "dropping acid" has become a risk factor for greater risk-taking propensity, while at the same time it may help lead to school failure, an outcome, which may modify one's sense of normative anomie, originally conceptualized in PBT as a social environment risk factor, and encourage more risk behavior.

However, PBT theorizes that relationships amongst these variables are not often so clear-cut, because almost everything we do can be tied in one way or another to our risk behaviors and outcomes. For instance, PBT studies have shown that something as seemingly

separate from drug use as orientation toward school explains variance amongst adolescents who engage in risk behaviors versus those who don't (Jessor, Van Den Bos, Vanderryn, Costa, & Turbin, 1995). Within the schema, positive orientation toward school is considered conventional, as opposed to unconventional, and as well it is a distal, as opposed to proximal, influence (Jessor, Turbin, & Costa, 1998). Regarding the former, it has been demonstrated that one's position on a "conventionality" dimension predicts risk behavior. In the latter case, where orientation toward school would be considered a distal influence, as it does not implicate problem behavior directly, findings show that both proximal and distal protective and risk factors account for variance in problem behaviors as well as they moderate health-related risk and protective factors.

Constructing the theory as such, the authors move closer to their goal of mapping out the complex nature of the adolescent development stage toward predicting and explaining adolescent problem behaviors such as illicit drug use, and the resultant structure allows for a more comprehensive assessment of the "intricate network of influences...that can account for variation" (Jessor, Turbin, & Costa, 1998, p. 788). Among the ways in which PBT has helped extend the scope of theory, embedding the individual actor in local, cultural, and societal contexts and including negative and positive health behaviors, risk and protective factors, distal and proximal influences, and the impact of protection on risk are but a few.

Drawing from the theory to evaluate prevention practices, the aim is to highlight gaps between the two toward incorporating into health communication practice those factors known to predict drug use among adolescents. To this end, the implications of Problem Behavior Theory for prevention strategies might be considered as complex as the theory, itself. To start, in that PBT gauges the intricate network of influences on adolescent problem behavior, it would suggest that prevention programs be as comprehensive as possible, from the vehicles used to implement them, such as school, parents, media, and community, to the risk and protective factors they address, represented in the five domains of the theory (with special attention to other problem behaviors, as it has been shown that these tend to co-occur with drug use behavior). Further, as it is the aim of PBT to embed the individual in the social context, PBT implies that programs be as individually-tailored as possible, seeking to treat each adolescent as her or his own person. Moreover, as the theory looks to map developmental processes, and connected research has shown that differences amongst youth can predict drug use behavior in adolescence, it would argue that the implementation of prevention strategies throughout the lifecourse (both beginning early and administered over the long-term) will have an impact. However, this notion would not simply imply that, in attempting to prevent drug use, one would introduce a child to the idea of drugs as early as possible, but rather that one would attend to all the factors known to influence drug use, such as self-esteem, perceived life chances, and the other components of the child's social environment,

perceived environment, personality, and behavior, as mapped in PBT (Jessor, Van Den Bos, Vanderryn, Costa, & Turbin, 1995).

Current Adolescent Illicit Drug Use Prevention Strategies

Communication strategies for preventing adolescent drug use vary widely in their application and nature. Prevention programs are often school-, community-, or society-based, and they can also take the form of multi-level strategies that incorporate a number of these different application loci into a single comprehensive strategy. Although by definition all of the initiatives are aimed at preventing adolescent drug use, many are designed to reach parents, communities, or society-at-large, either in combination with or instead of targeting youth, and, in terms of focus, drug prevention strategies can run the gamut from a simple drug education program to larger, more extensive strategies that include such things as resistance and coping skills, normative education, promoting youth involvement in school or other activities, and providing role models (see Table 1 below for a breakdown of attended risk and protective factors by program).²

Although would be possible to organize a review along any of these lines, the present work situates programs by locus of application, (i.e. school-based, community-based, and society-based). Our sample of prevention programs was chosen to represent a wide range of techniques and popularity as well as a wide range of basis in research. This was done not only to establish the diversity of programs currently employed, but also to demonstrate various perspectives on addressing the problem of adolescent drug use; the below program descriptions include pertinent available information in these areas.

School-Based Programs

The most widely-used school-based commercial prevention strategy is *Drug Abuse Resistance Education* (D.A.R.E.) (see, e.g., Dukes, Stein, & Ullman, 1997; Rosenbaum & Hanson, 1998; Drug Abuse Resistance Education America, 2000). This program has been employed in over half of U.S. elementary schools across all fifty states as well as in thirteen other countries. The structure of D.A.R.E. is rather simple: it consists of seventeen drug-related lessons of an hour each presented to fifth-grade students by local law enforcement officials. The program is also standardized. According to D.A.R.E. America, who provides the curriculum, neither the format nor the content may be changed without written consent. Lessons range from drug education, including immediate effects and lasting consequences of drug use as well as resisting offers of drugs, to building self-esteem, managing stress without taking drugs, avoiding violence, and finding positive alternatives and role

models. At the start of the program, students are required to sign a pledge that they will keep their bodies "free from drugs," and the program ends with a "culmination ceremony," where the students are given a T-shirt, a certificate, a pin, and a wallet-sized plastic card signifying them as D.A.R.E. graduates. Currently, D.A.R.E. America is looking to offer programs for parents and to produce and distribute anti-drug public service announcements (PSAs).

Another widely-distributed commercial prevention program is *Streetwise Schools* (NODRUGS.COM, 2000). This peer-based approach requires students to produce and direct videos wherein they interview fellow students about drug-related experiences. The program is implemented to provide local role models for drug-free living while at the same time teaching those who produce or see the videos about the dangers of drugs. In doing so, the program localizes drug-related messages, provides activities alternative to drug use, and helps adolescents gain media production skills, thereby striving to make adult activities "seem doable" and improving perceived and actual life opportunities.

A third popular school-based program is *In-DEPTH*, or *Innovative Drug Education and Prevention Tools for your Health* (Lafferty, 1998; In-DEPTH Program, 2000), which was developed by a pharmacist and MBA whose background and experience in teaching are manifest in the strategy. The main goal of the program is to teach adolescents the "real risks and returns associated with using or dealing drugs" (In-DEPTH Program, 2000). To achieve this, students are taught sales and marketing techniques, communication skills, and critical thinking. More specifically, the curriculum covers personality typing, human biology, selling skills, and drug-related education, and the program also has a teacher training component designed to help instructors use the core curriculum to create tailored, student-specific messages.

Three programs developed within academia are the *Seattle Social Development Project* (SSDP) (Hawkins, Catalano, & Miller, 1992; Hill, Howell, & Hawkins, 1999), the *Life Skills Training Program* (LSTP) (see, e.g., Botvin, Baker, Filazzola, & Botvin, 1990; Botvin, Schinke, Epstein, & Diaz 1994; Botvin, Schinke, Epstein, Diaz, & Botvin, 1996), and *Adolescent Alcohol Prevention Trial* (AATP) (Donaldson, Graham, & Hansen, 1994; Donaldson, Graham, Piccinin, & Hansen, 1995). The first two are designed to address a wide range of risk and protective factors including general self-management (LSTP), academic (SSDP) and social skills (SSDP & LSTP), opportunity enhancement (SSDP), and school and family involvement (SSDP). Further, these two seek to address and prevent problem behaviors beyond drug use. AATP, on the other hand, tends to be more focused. The main components of this program are drug education and resistance and normative education, which are also included in SSDP and LSTP.

² Table 1 also includes programs not described in the text in order to provide a wider array for consideration.

Community-based Initiatives

Community-based drug use prevention strategies often work not only with students but also with parents and teachers, and they often "include multiple sectors of the community such as schools, churches, businesses, and law enforcement" (Paine-Andrews, Fawcett, Richter, Berkley, Williams, & Lopez, 1996, p. 81). Three exemplars of this strategy are *Dare to be You* (Miller-Heyl, MacPhee, & Fritz, 1998; Prevline: Prevention Online, 2000; Minnesota Institute of Public Health, 2000), *National Family Partnership* (National Family Partnership, 2000), and *Family and Schools Together (FAST)* (McDonald & Sayger, 1998; Families First, 2000). Their common goals include strengthening community and reaching adolescents and parents, but much like school-based strategies, these programs are also visibly diverse.

Dare to be You works with parents, children, teachers, and childcare providers toward helping their target audience, high-risk families with two to five year-old children, develop self-esteem as well as stress-management and communication skills (Miller-Heyl, MacPhee, & Fritz, 1998). The strategy focuses on building parenting skills such as self-efficacy, effective child rearing, responsibility, and problem-solving skills as well as helping young children and their older siblings with developmental progress. Carried out in various ways depending upon the community within which it is employed, these interventions can include support and self-help groups, (pre)school-based (including day care and *Head Start*) and peer counseling sessions, and the distribution of drug education materials.

National Family Partnership (NFP) is a network of community-led initiatives with bureaus across the U.S. (National Family Partnership, 2000). NFP holds community "Red Ribbon" events and sends direct mail to its member families. The major concept behind NFP is that by demonstrating positive role models and lifestyles to adolescents, they will follow those role models and lead those lifestyles. National Family Partnership promotes parenting skills and parent/child prevention communication beginning in grade school.

Family and Schools Together (FAST) uses a family-based approach that addresses drug use and connected problem behaviors such as violence, delinquency, and school dropout (Families First, 2000). FAST is composed of eight weekly sessions, often held in local schools and homes, that include a family meal, "communication games," and self-help parent groups, and two years of monthly follow-up meetings are employed to evaluate the program and reinforce its message. The main goal is to prepare parents to be the major prevention agents for their children, and this incorporates child-rearing practices such as building social and communication skills and self-esteem as well as encouragement for parents and their children to become involved in school and community. The program accepts expecting parents and those with children aged through adolescence, and it matches families with FAST workers and other families by ethnic identity.

Society-based Strategies

Society-based strategies include those implemented at the national level, beyond the use of the world wide web, and they often include the use of traditional media such as national television and radio. They often work with all members of society, including parents and their children. However, some are targeted at parents while others are aimed at youth or community, and these programs can also be either tailored for particular regions, communities, ethnic groups, or specialized along other lines of classification.

Possibly the most comprehensive of all society-based prevention strategies is employed by the U.S. Office of National Drug Control Policy (ONDCP).³ The *ONDCP Drug Control Strategy*, as a preventive initiative, is based on three components (Office of National Drug Control Policy, 2000): *The National Youth Anti-drug Media Campaign*, which places anti-drug PSAs across all media types; the *Prevention and Education* wing, which funds community programs as well as disseminating research and informational materials on prevention strategies, as stipulated by the U. S. Drug-Free Communities Act of 1997; and the *legal branch*, which helps create and enforce laws surrounding drug use both nationally and beyond the borders of the U.S., thereby reducing the availability of drugs for adolescents. Although activities that fall within the legal branch of the ONDCP may not traditionally be regarded as health communication practices, it could be argued that both they add to the possible realm of information to be disseminated in drug prevention campaigns and that their natural publication in mass media outlets provides opportunities to shape perceptions regarding policy and the availability of illicit drugs. In other words, by "promot[ing] zero tolerance policies for youth regarding the use of illegal drugs" (Office of National Drug Control Policy, 2000), resultant perceptions of ONDCP policies may be more important than the policies, themselves, in determining behaviors (Higginbotham, West, & Forsyth, 1988).

Now largely working as a component within the ONDCP *National Youth Anti-drug Media Campaign*, the *Partnership for a Drug-free America* (PDFA) has been the largest producer and distributor of anti-drug PSAs for over a decade (Partnership for a Drug-free America, 2000). Even before the coalition with the ONDCP, the PDFA had created "the largest public service campaign in history," placing \$2.8 billion worth of PSAs from March 1987 through the end of 1995 (Partnership for a Drug-Free America, 1997). Prior to involvement with the ONDCP, the *Partnership's* messages were designed to report the dangers of drugs and to promote low tolerance. Since the coalition, their advertisements have begun to promote alternative activities for youth, positive role models, and resistance skills beyond "just

³ See www.whitehousedrugpolicy.gov/policy/99ndcs/goals.html for a detailed overview of the strategy and its implementation.

say[ing] no," demonstrating a theoretical perspective on communicative strategies seeking to fortify protective factors instead of focusing on risk (Rosenstock, Strecher, & Becker, 1988). The campaign's ad placement has also become more comprehensive since the merger, including more community-specific messages for both adults and adolescents through state and local chapters.

The two final society-based programs are *Race Against Drugs* (RAD) (Race Against Drugs, 2000) and *Your Time, Their Future* (Your Time, Their Future, 2000). RAD is sponsored by NASCAR, the auto-racing association, and it employs professional drivers to speak at televised national and local events about the dangers of drugs and what our youth can do to cope with peer pressure and resist offers of drugs. *Your Time, Their Future*, on the other hand, is targeted towards parents of adolescents, and it provides parenting information via the world-wide web and direct mail as well as in placing PSAs in national radio, TV, print, and outdoor (billboard) venues and hosting a 1-800 help-line. The preventive concept that lies at the heart of this campaign says that positive activities and community service help promote the acquisition of skills, self-discipline, and competence, and that by supporting such involvement by adolescents, parents can help reduce the use of drugs amongst our youth. A Hispanic/Latino version of the campaign is upcoming.

Discussion

A wide variety of adolescent drug use prevention initiatives are currently employed in the United States. Such programs vary in locus of application, from school- to society-based; in social juxtaposition to the adolescent, from upstream to downstream; in their specified targets, from adolescents, themselves to all members of society; in the number and types of risk and protective factors they attempt to address, across all four pertinent domains of Problem Behavior Theory (PBT); and, of course, in the ways in which these programs are conceived and implemented.

Using PBT, we can evaluate these programs along a number of dimensions. First, we can compare the risk and protective factors addressed by prevention strategies to those we know from theory and research to explain drug use behavior variance amongst adolescents. Second, we can consider the extent to which particular programs are, or can be, individually-tailored, as PBT would argue that the more programs can meet individual needs, the better they will do in preventing drug use. Third, we can look at the period of time given programs are implemented, as although PBT would say that we should not introduce youth to the notion of drugs before the adolescent stage of development, it would certainly make the case that we should act to prevent involvement with drugs throughout the lifecourse.

In comparing risk and protective factors between theory and practice, we might begin by illustrating the risk and protective factors addressed in each as done in Table 1. From this outline, we can highlight risk and protective factors that are shared by contextual theory

and intervention practice as well as those often left unattended. As the present study is focused on prevention strategies, we incorporate only those factors of PBT involved with preventing, as opposed to stopping, drug use, which includes the initial, preengagement risk and protective factor domains from PBT. This is to say that, although behaviors and outcomes, the remaining explanatory domains for adolescent risk behavior, can be thought of as or become risk factors for other problem behaviors (e.g., the use of a second or third illicit drug), the concern here is prevention; it is assumed that the youth at hand are not involved in drug use at the outset. Also, the initial domains include the area of behavior so that the notion of preventing other problems behaviors in conjunction with illicit drug use may be examined, and although the risk and protective factor domain of the theory includes an area of biology and genetics, we have left this out as it does not concern health communication practice, per se. What we are left with, then, is the four remaining initial risk and protective factor domains: social environment, perceived environment, personality, and behavior.

Reviewing the factors addressed in prevention strategies, we can say that the sampled programs are incomplete with respect to PBT. In other words, there are several factors known to influence involvement with illicit drugs that remain unattended throughout practice. In terms of behavior, many programs lack acknowledgment of problem behaviors beyond drug use, but with respect to protective factors, many promote activities such as school or social involvement. However, PBT would suggest that it may be helpful to promote a broader range of activities within particular initiatives.

Only four of the seventeen sampled incorporate other problem behaviors, and highlighting this helps demonstrate one way in which PBT can be helpful, as it suggests that seeking to prevent problem behaviors in general would be beneficial in combating drug use amongst our youth. For instance, we know that problem behaviors often coalesce into a "syndrome" of problem behavior, and one of the ongoing tasks of PBT it to completely map and explain this phenomena. Therefore, although it is salutary that several of the programs encourage school and activity involvement, these and other programs could do well to discourage other problem behaviors in conjunction with drug use. Jessor, Donovan, & Costa (1991, p. 25) elucidate:

"When any specific problem behavior--say marijuana use--is the criterion behavior to be explained, behavior system proneness will reflect the instigation to marijuana use that derives from engagement in other problem behaviors and the control against marijuana use that derives from engagement in conventional behavior."

The personality domain is dominates in these prevention programs, and considering the popularity of person-centered theories like the Health Belief Model, this might be expected. Many of the strategies sampled

include an acknowledgment that distal personality factors, or those not specifically related to drug use, can play an important role in adolescents' decisions regarding drugs, and those personality factors most often incorporated in programs include self-esteem, perceived life chances, coping skills, and social skills.

The fact that many programs seem to be nearing comprehensiveness in this domain is a welcome development. However, the disproportionate attention paid personality variables seems to reflect a larger cultural predisposition toward the individual that might be unhealthy (Peck, 1994). That is to say, focusing largely on the actor tends to obscure the role of environment and social relations that work to produce and reproduce "the drug problem" in society. Designing programs as such not only places the onus squarely on the individual, which can create its own problems, but it also directs attention from the social totality. This is another way in which contextual theories would prove helpful, in that they not only focus on social factors, but they also elucidate ways in which social forces work with respect to the adolescent actor.

As with the behavioral domain, perceived environment receives little attention in prevention programs, perhaps despite its inclusion in person-centered theory. Over half of the sample includes no mention of these variables, while only four programs, less than a quarter, move beyond behavior models. This may again reflect a tendency toward the individual and away from social location. Moreover, many of the prevention programs that include this domain focus specifically on drug-related perceptions. This is to say, such components as behavior models, behavior controls, and parent/friend norms, when addressed, concentrate specifically on models for, controls against, and parent/friend norms concerning drug use. PBT would contend that incorporating the entire conventionality/unconventionality spectrum in this domain can help prevent drug-related behaviors (Jessor, Donovan, & Costa, 1991), and as the Health Belief Model includes perceived environment in its explanation and predictions of intrapersonal processes (see, e.g., Elder, Stern, Anderson, & Hovell, et al., 1987), the application of PBT to programs provides an excellent example of the way in which we might extend such person-centered theory.

The final domain is social environment. This includes variables such as socioeconomic status, normative anomie, racial equality, opportunity, and family, as PBT research has shown all of these to explain variance in adolescent drug use behaviors. Components addressed in the sampled prevention strategies include normative anomie (normative education), family, and drug availability, which is certainly laudable but shows room for improvement. More specifically, absent from prevention strategies are variables such as racial equality, socioeconomic status, and opportunity, all of which are contextual variables beyond the control of the

adolescent actor. Certainly these are outside the control of the health communication practitioner, as well, but we are able to address the ways in which these might play into adolescent development. It has been argued that the current lack of recognition here derives from the way in which we currently perceive the role of adolescent drug use prevention, in general (Jessor, 1993). This might be broken down into two components: 1) locating the onus on the individual, as outlined above; and 2) a preoccupation with or a "separating out" of the problem of drug use within prevention strategies. We suggest that integrating contextual theories provides an excellent way in which we might begin to rethink the way we currently conceptualize prevention communications.

Two elements of PBT remain for evaluating prevention program: 1) the extent to which programs can be individually-tailored; and 2) the length of time they are implemented. First, as we know, there is no single prevention design that will work to influence all adolescents. Each individual comes to an intervention with her or his own background and perspective, and in turn, the more a program is designed to meet the needs of given adolescent, the better it will work to promote a healthy lifestyle. Among the sampled programs, adaptability ranges from good to nonexistent. For instance, interventions like *Dare to Be You* have components and application styles that are carried out in different ways depending upon the situation, whereas with *D.A.R.E.*, neither the format nor the content may be changed without written consent. Given that none of programs viewed herein are practiced at the individual level but rather at that of school, community, or society, it is understandable that none of them can be categorically individualized, but in that there is a degree to which some can be, those sorely lacking accommodation can certainly be modified. As tailoring programs to meet individual needs is an important component of prevention, even programs that are presently adaptable might do better if they can find new ways to suit individual needs.

We also know that adolescent prevention efforts should be as comprehensive as possible in terms of engaging young people through all stages of development. Further, programs and their components should be sensitive to the stage of development to which they are being applied. For example, a given strategy should not introduce the concept of illicit substances well before the average child would encounter drugs in life, but rather it should institute such a component at the appropriate developmental stage. Currently, most prevention programs are targeted toward a specific developmental stage, rather than starting early and proceeding through adolescence. However, creating single development-comprehensive strategy would require more resources than an individual program can expect to acquire; so specific programs might look to overcome this by combining

Table 1: PBT Adolescent Risk/Protective Factors and Illicit Drug Use Prevention Practices

| Risk/Protective Factors Strategies | | Social Environment | Perceived Environment | Personality | Behavior |
|------------------------------------|--|---|---|---|--|
| PBT | (Jessor & Jessor, 1977) | SES, Normative Anomie, Racial Equality, Opportunity, Family | Behavior Models, Behavior Controls, Parent/Friend Norms | Perceived life chances, Self-esteem, Health/Life Values, Tolerance of Dev | Problem Behaviors, School, Church, Activity Involvement |
| School-based Programs | | | | | |
| D.A.R.E. | (www.dare.com) | | Behavior Models | Self-esteem, Stress Management, Accepting positive alternatives | |
| Streetwise Schools | (www.nodrugs.com) | | Behavior Models | Perceived life chances, Self-esteem | Activity Involvement |
| In-DEPTH | (www.indepthprogram.com) | | | Health/Life Values, Communication skills, Critical Thinking | School Involvement |
| SSDP | (Hawkins, et al., 1992) | Normative Education | | Perceived life chances, Academic and Social Skills | Problem Behaviors, School/Family Involvement |
| LSTP | (Botvin, et al., 1990) | Normative Education | Behavior Models | Drug Resistance skills, Self-management skills, Social Skills | |
| AAPT | (Donaldson, et al., 1994) | Normative Education | | Drug Resistance skills | |
| Urban Youth Connection | (Valentine, et al., 1998) | | | Perceived life chances, Self-esteem, Health/Life Values, Coping skills | Problem Behaviors, School Involvement |
| Community-based Initiatives | | | | | |
| Dare to be You | (Miller-Hcyl, et al., 1998) | Family | | Perceived life chances, Self-esteem, Stress Management, Health/Life Values, Communication skills, Development | |
| National Family Partnership | (www.nfp.org) | | | Health/Life Values | Activity Involvement |
| FAST | (www.familiesfirst.org) | Family | Behavior Models, Behavior Controls, Parent/Friend Norms | Self-esteem | Problem Behaviors, School/Family Involvement |
| HODAC | (www.hodac.org) | Family | | Social skills, Health/Life Values, Coping skills | Problem Behaviors, School, Family and Activity Involvement |
| Project Northland | (Perry, et al., 2000) | Normative Education, Family, Drug Availability | | Perceived life chances, Self-esteem, Health/Life Values, Tolerance of Use | Activity Involvement |
| Society-based Strategies | | | | | |
| ONDCP | (www.whitehousedrugpolicy.gov) | Family, Illicit Drug Availability | Behavior Models, Behavior Controls, Parent/Friend Norms | Perceived life chances, Self-esteem, Health/Life Values, Tolerance of Use | Activity Involvement |
| PDFA | (1987-1998) (www.drugfreeamerica.org) | | Behavior Models, Parent/Friend Norms | Tolerance of Use | |
| PDFA | (1998-Present) (www.drugfreeamerica.org) | Family | Behavior Models, Behavior Controls, Parent/Friend Norms | Perceived life chances, Self-esteem, Health/Life Values, Tolerance of Use | Activity Involvement |
| Your Time, Their Future | (www.health.org) | Family | Behavior Models | Perceived life chances, Self-esteem, Health/Life Values, Tolerance of Use | Activity Involvement |
| RAD | (www.raceagainstdrugs.org) | | | Coping and Drug Resistance skills | |

Drug education components are included in each program

with others in covering the developmental spectrum. For instance, a program like *Dare to be You*, which is applied to two-to-five year-old children and their parents, might be combined with programs like the *Seattle Social Development Project* or the *Life Skills Training Program*, which is applied to youth in schools. Such integration would not only be helpful in terms of covering the lifecourse, but it would also allow focus on those components applicable to various developmental stages.

Comprehensiveness in program construction might also be well-served by an integration of person-centered and contextual theories. The major strength of person-centered theory is that it elucidates the intrapersonal processes at work in judgment and decision-making with regard to adolescent drug use. Although such theories involve social cognition, which is context-bound, application of contextual theories such as PBT can go far in mapping out new areas for investigation and integrating these into a description of cognitive processes. For example, person-centered theories could integrate concepts of racial equality and socioeconomic status. Further, PBT theorizes relationships amongst these social variables between the adolescent actor and the outside world, which, when applied in tandem with person-centered theories, would help clarify processes at the individual level. Comparing our prevention strategies against both person-centered and contextual theory, then, can provide for more productive programs, as it allows for a broader spectrum of influences to be incorporated, and integrating these theories affords us tools for implementation.

Program Evaluation Research and Contextual Theory

One question in gauging the value of such a diverse array of adolescent illicit drug prevention strategies concerns standardized measures of effectiveness for comparing them to one another on common terms. Indeed several attempts to create such measures are currently underway, and these include both process evaluations, including measures of the way in which programs are constructed and implemented, and outcome evaluations, or the extent to which interventions work to reduce drug use. For instance, the *ONDCP Drug Control Strategy* includes a measure to create standardized programs of evaluation, as proposed by their Office of Programs, Budget, Research and Evaluation (Office of National Drug Control Policy, 2000), and a current program of research at Florida International University seeks to do the same with adolescent drug use and abuse interventions (Wagner, Brown, Monti, Myers, & Waldron, 1999).

Speaking specifically to process evaluations, or those that gauge program construction as done herein using contextual theory, a currently fashionable way to build adolescent drug prevention strategies is to base them on research, often using "model program" categorizations such as those employed by the National Institute on Drug Abuse (National Institute on Drug Abuse, 2000), the Office of National Drug Control Policy (Office of National Drug Control Policy, 2000), the Center for Substance Abuse Prevention (Center for Substance Abuse Prevention, 2000), and others.

Certainly this is a much more substantial way to go about implementing a program than merely going with a "gut feeling," but it lacks certain provisions that might be better encompassed basing programs on theory. First, theory-building allows for the creation of a perspective through which to interpret research data, and without such an outlook, research is left with no solid connection to everyday life. Second, many programs commonly have their foundation in seeking to address reasons for using drugs as presented by drug users, which can frequently be different from those that would be given by one who is looking to try drugs for the first time -- the usual suspects for prevention. For example, no drug user would say that he or she will continue to use for reasons of "novelty," but one who has never tried drugs would more than likely have some sense of that. In placing research within theory or by building theory through research, we can flesh out such potential hazards. Lastly, research, by definition, is undertaken at the ground level, and by itself does not allow a critical reflection on the larger sociohistorical situation in which it is embedded. Therefore, basing strategies on research alone tend to furnish us with programs that do not treat the "whole individual" in context.

Theoretical and Practical Implications

In light of the current state of adolescent drug use prevention strategies, implications from contextual theory--Problem Behavior Theory in particular--suggest a reevaluation of the notion of prevention practice, in general. In other words, we might begin to think differently about that which constitutes a drug prevention program if we are to actuate real change. One example of this would be that, by taking into account what it means to be a parent and suggesting ways in which parents might help their children with developmental progress in light of such considerations, we could begin to better prepare children for life, and the problem of drugs in society might thereby be reduced (Takanishi, 1993), especially if done in conjunction with strategies currently employed. This endeavor could be further extended to "all those who are in contact with adolescents--educators, health professionals, and youth workers" (Takanishi, p. 87). Beyond our present focus, efforts to create racial equality, commensurate opportunity, and to de-stratify socioeconomic status--those factors that cannot be addressed within health communication programs--theory suggests, would go a long way in purging the problem of drugs from our society. In other words, general social change might be thought of as an adolescent drug use prevention strategy.

Over the past four decades, the study of adolescent development has focused almost exclusively on risk (see, e.g., Bloch, Crockett, & Vicary, 1991), and this orientation is evidenced in the sampled prevention efforts. Stated another way, focusing so heavily on drug use and other risk factors in research has led to building programs that do the same. As Jessor, Turbin, and Costa (1998, p. 798) maintain, studies on the impact of protective factors showing a relationship between protection and avoidance of problem behaviors

"have implications for the design of intervention efforts to influence adolescents' health behaviors. They suggest that the current emphasis on reducing risks might be broadened to include efforts to strengthen protective factors."

PBT maintains that proximal and distal protective factors are conceptually distinct from risk factors, meaning that protection does not imply the absence of risk, nor does protection lie at the opposite end of a spectrum of risk. This is to say that prevention strategies focusing on the enhancement of protective factors rather than the reduction of risk can demonstrate parallel outcome efficacy sans implicating drug use. However, as the contemporary state of research in the field centers around risk, research-based interventions tend to mirror that initiative. Therefore, as Jessor and his colleagues suggest, adolescent drug use study requires some reformation. Looking forward in drug use prevention study, then, we might imagine more programs like the *Youth Development and Empowerment* approach wherein "youth are viewed as assets and resources to our community rather than social problems or community liabilities" that go "beyond rather than against the traditional risk-factor approach" (Kim, Crutchfield, Williams, & Hepler, 1998, p. 1).

Study Limitations and Directions for Future Research

As an exploratory study into prevention programs and their theoretical engagement, it seems proper to suggest a number of ways in which this idea might be advanced and augmented. First, stemming directly from this work, future research might focus on prevention strategy implementation by "unpacking" the risk/protective factor components illustrated in Table 1. Second, we might begin incorporating into evaluations family-based initiatives, a newly-emerging form of prevention wherein family is the intervention locus (Hogue & Liddle, 1999). Family-based initiatives often come from a clinical psychology perspective and work specifically with individual families to construct personalized prevention strategies. Third, we might observe the way in which various programs implemented in a given area work in tandem toward a single comprehensive strategy, described in public health as appraising the entire "stream" of programs (Gutman & Clayton, 1999). Lastly, we should make efforts to involve contextual theory in communicative prevention strategies, and this could be augmented by more clearly delineating the ways that contextual and person-centered theories can be integrated.

In "unpacking" the risk and protective factors, we might explore each of the components within all the domains in evaluating the extent to which programs comprehensively address each, and we should also tend to these techniques to understand how well they work. In creating Table 1, a given component was listed under a program if any mention of it was made within the program's mission or application, giving a program "the benefit of the doubt" as to whether or not it attended to an aspect of a risk/protective factor. Although it is

hoped this is a novel exploratory step in evaluating programs and one more cogent than assessing "effectiveness" per se, it does not go far enough in telling us about the programs' processes. By penetrating these components, we can come closer to achieving that end. Further, in moving into these risk/protective factor domains to see what works, we might assess the empirical underpinnings of the processes employed (Botvin, 1999) as well as the way in which these empirical findings are embedded in theory. To do so, though, we would also need an explication of each component in relation to practice.

Future studies might also consider the public health notion of exposure comprehensiveness, which locates programs along a dimension of upstream to downstream, where "upstream" indicates a strategy implemented at the level of society, "midstream" includes group interpersonal attention, and "downstream" denotes personal intervention (Gutman & Clayton, 1999). Public health professionals often examine intervention strategies in this way in order to determine the extent to which adolescents receive attention across the spectrum. As PBT suggests that prevention efforts be as comprehensive as possible, utilizing notions of exposure comprehensiveness in health communication studies might help bridge the gap between theory and practice.

In conclusion, we return to the question that originally provoked this essay. The drug problem in the U.S. today is one of monumental proportions, and it is also one that has received continuous and exorbitant attention over the past three decades. Our youth are not simply going through a phase, and if tools are available to help us improve the construction and implementation of prevention strategies, we should use them. Contextual theories such as PBT and their empirical underpinnings tell us that the drug problem stems not simply from individual qualities but rather from the social, or even global, atmosphere, and integrating these theoretical perspectives into program construction would augment prediction and prevention for the adolescent actor in society. Considering contextual theories along with the more person-centered models that we currently tend to employ will not only help us to understand why kids take drugs, but it will also allow us to better our strategies and our youth.

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EFF-088 (Rev. 2/2003)